

Claims

1. A continuous casting mold for casting molten metals, particularly molten steel materials, at high casting rates to form polygonal billet, bloom, and preliminary section castings and the like, comprising a tubular mold made of copper or of copper alloys whose entry cross-section on the pouring-in side has a cross-section which is enlarged compared to the exit cross-section on the casting exit side and corner radii, characterized in that the inner geometrical cross-section form and the associated measurements are designed analogous to the locally deducible quantity of the solidification heat for the continuous casting according to the progression of the temperature diagram across the mold height, starting with the cross-section enlargement on the pouring-in side opposite the exit cross-section on the casting exit side, wherein on the pouring-in side in the area of the casting mirror a section of great conicity, and immediately adjacent a section of greater conicity, and under the section of greater conicity, a continuously variable conicity according to the casting shell growth and the contraction of the continuous casting until the exit cross-section is successively arranged such that the wall volume is reduced according to the dissipated heat quantity per time unit and diagram across the mold height by enlarging the exterior surface of the tubular mold by means of notches or the like and by reducing the wall thickness in at least separate height ranges analogous to the thermal expansion of the mold.

2. The continuous casting mold according to claim 1, characterized in that the exterior form is reduced at least in separate height ranges of the tubular mold analogous to the thermal expansion of the mold.
3. The continuous casting mold according to one of claims 1 or 2, characterized in that the tubular mold is designed with regard to its geometrical cross-section forms based on the respective steel grade.
4. The continuous casting mold according to claim 1, characterized in that starting at the entry cross-section a centric, approximately parabola-shaped recess is provided for each cross-section side.
5. The continuous casting mold according to claim 4, characterized in that the approximately parabola-shaped recess diminishes in the direction towards the casting exit side.
6. The continuous casting mold according to one of claims 4 or 5, characterized in that the length of the approximately parabola-shaped recess extends approximately into half the tubular mold height.

7. The continuous casting mold according to one of claims 4 to 6, characterized in that the length of the approximately parabola-shaped recess is adapted to the contraction measure at the height of the respective broadside and/or edge of the mold cross-section.

8. The continuous casting mold according to one of claims 4 to 7, characterized in that in the area of a corner radius in the cross-section plane of the entry cross-section one adjoining, circumferentially extending surface each extends downwards to the casting mirror which connects to an analogous identical counter surface starting at the casting mirror until the transition into the geometrical cross-section form.